ADJUSTMENTS IN RETAIL PRICES OF BEEF TO SUPPLY CHANGES

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U.S. DEPARTMENT OF AGRICULTURE

Article Reprinted From
The Marketing and Transportation Situation
May 1963

ERS-123

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Since mid-1962, livestock and meat prices have been unsettled by a series of changes in supplies. In the late summer and fall a strong sellers' market persisted. Fed beef was in short supply and prices of live animals, wholesale dressed beef, and retail cuts moved steadily upward. In December, the situation changed on many markets. Marketing of heavy fed steers increased sharply. The fed cattle market weakened, and prices at several points fell sharply. Wholesale and retail price declines followed.

In addition to increases in a critical part of the beef supply, pork and poultry supplies increased rapidly during the last quarter of 1962 and the first quarter of 1963. Livestock prices were under heavy downward pressure from several directions.

These pressures have not been uniform at all market levels. The general tendency has been for live, wholesale, and retail prices to move together but in any given period there has been a considerable variation from this pattern. Retail prices, which were fairly stable from late September 1962 to late January 1963, began a downward movement the fourth week in January -- 8 weeks after live steer prices began their sharp declines in late November (fig. 1).

The purpose of this article is to examine recent retail beef price adjustments and their relation to changes in live and wholesale prices. Questions of whether retail prices responded as quickly and as fully as they should cannot be answered completely. Criteria that can be used to evaluate retail price performance are

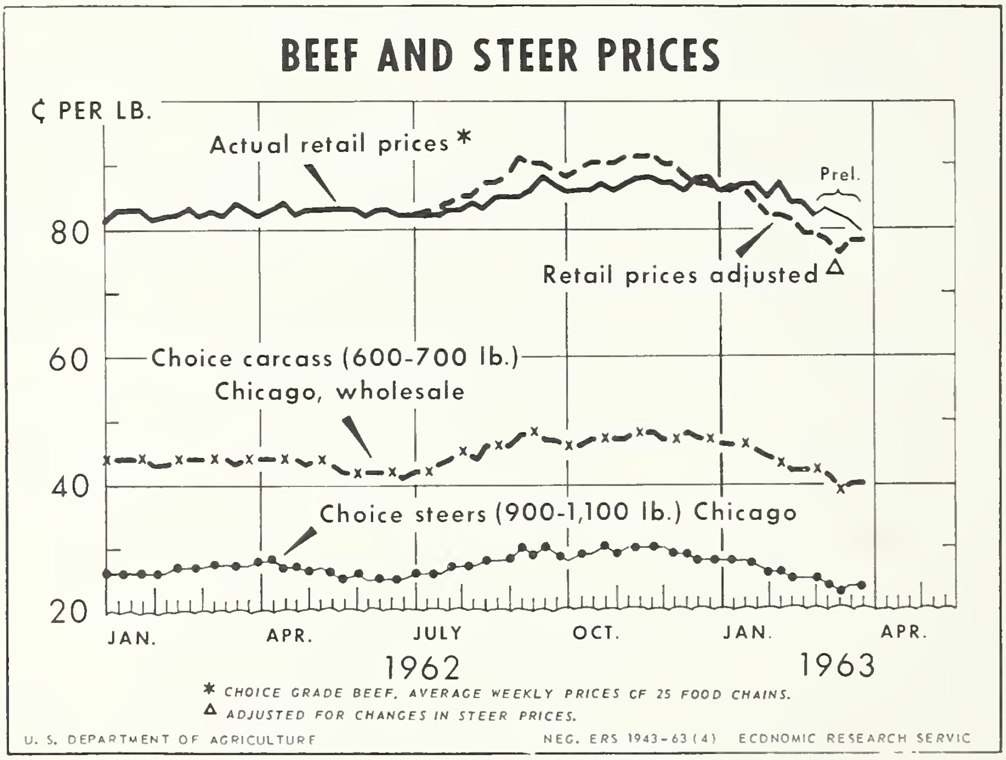

Figure 1

1/ Prepared by William C. Motes, agricultural economist, Marketing Economics Division, ERS.

vague and incomplete. Certainly it takes time for changes in supply to move from level to level in the marketing system and for information regarding these changes to move between and within levels. No one can say how long this movement should take or how long it should take the trade to react. Thus, this analysis is limited to consideration of: (1) Reaction time in 1962-63 compared with periods of sharp change in the recent past, and (2) the extent of changes at live and retail levels. 2/

Price Adjustment in 1962-63

Three distinct stages of price adjustment appeared from July 1962 to mid-March 1963: Rising, steady, and falling (table 5).

A $1 per hundredweight decrease in the price of steers is not directly comparable to a 1-cent per pound decrease in retail beef prices, since it takes 2 1/4 pounds of live steer to make 1 pound of retail cuts of beef. Thus, a

Table 5.--Beef and steers: Stages of price change, 1962-63

Product	Rising		Steady	Falling	
	Period	Change	Period	Period	Change
Steers 1/	Mid-June to early Sept.	$4.88 per cwt.	Early Sept. to late Nov.	Late Nov. to mid-Mar.	-$6.68 per cwt.
Beef carcasses 2/	Early July to mid-Sept.	$7.15 per cwt.	Mid-Sept. to mid-Dec.	Mid-Dec. to mid-Mar.	-$8.69 per cwt.
Retail beef 3/	Early July to late Sept.	5.9 ¢ per lb.	Late Sept. to late Jan.	Late Jan. to mid-Mar.	-6.9 ¢ per lb.

1/ Choice steers (900-1,100 lb.), Chicago.
2/ Choice carcasses (600-700 lb.), Chicago.
3/ Weighted average price of retail cuts, sample of 26 retail chains.

2/ The problem of evaluating retail price responses to supply changes is compounded by the difficulty of making meaningful observations of retail prices of beef. It is not enough to gather prices for a single cut of meat. Prices for all cuts of beef sold at retail must be weighted by their importance in the carcass into an appropriate average price. Further, a systematic effort must be made to include "special" prices when they are the effective prices at which important proportions of sales are made.

decrease (increase) in the value of 2 1/4 pounds of live steer (the live product equivalent) should be compared with a decrease (increase) in the retail price of beef per pound. 3/ Recent changes in the retail price per pound of Choice grade beef and the value of 2 1/4 pounds of Choice steer are shown below:

	Increase	Decrease
Retail price of beef per lb.--	Cents	Cents
July to Sept.	5.9	---
Jan. to mid-Mar.	---	6.9
Value of $2\frac{1}{4}$ lb. of live steer--		
Mid-June to Sept.	11.0	---
Nov. to mid-Mar.	---	15.0

A series of "adjusted" retail prices has been constructed to facilitate comparison between changes in actual prices and changes in steer prices (fig. 1). This series was constructed by keeping constant the margin between adjusted retail prices and the value of the live product equivalent. 4/ Comparison between the adjusted retail price and the actual retail price indicates that the value of the live product equivalent has declined more (in cents) than the retail price since November 1962. But last summer and fall the live product equivalent value increased faster and further than the actual retail price. Retail price adjustments are expected to continue after live prices stabilize.

Recent Price Adjustments Since 1950

Historically, the pattern of retail price adjustment to large supply changes has been quite similar to the one seen in 1962 and early 1963. In 5 periods of large price changes, actual retail beef prices and retail beef prices adjusted for changes in steer prices are compared (fig. 2). Although these periods are not similar in many respects, they were selected because cattle and beef prices rose and fell sharply in each. In response to supply changes, retail prices usually did not fall as quickly or as far as might have been expected, given the declines in the price of live steers. Neither did they rise as rapidly or as far when prices were rising. The average increase in the value of the live product equivalent in these 5 periods was 10.9 cents (table 6). The increase in 1962 was 11.0 cents. The average retail price increase for beef in the 5 periods was 7.7 cents per pound compared with the 1962 increase of 5.9 cents.

The value of the live product equivalent declined 15 cents in 1962-1963 (by mid-March) compared with an average decline of 15 cents for the 5 periods. Retail beef prices dropped 6.9 cents in 1962-1963. The average was 8.9 cents. Changes in the 4 previous periods were from peak to trough; however, adjustments in the 1962-63 period are not complete. Live prices appear to be stabilizing, but retail prices probably will decline still more.

Live prices have shown a tendency to "overadjust" to both increasing and decreasing supplies. Rising cattle prices appear to go too high, falling prices too low relative to observed supply changes. By the same standard, retail prices seem to "underadjust." They appear to lag behind changes in supply (also wholesale and live prices) both when supplies are increasing and when they are decreasing.

Interpreting Differences in Live and Retail Price Adjustments

The differences in live and retail price adjustments demonstrate that the retail beef market is tied only loosely to the live steer market. These 2 separate (although interdependent) markets must adjust as supply and demand conditions change. Steers purchased in one market become the cuts of beef sold in the other.

3/ Changes in byproduct values were not included because weekly byproduct data were not available.

4/ The adjusted retail price for any week is the actual retail price on July 7, 1962 (the week before the price of steers began its summer rise) plus the change in the value of the live product equivalent from July 7 to that week.

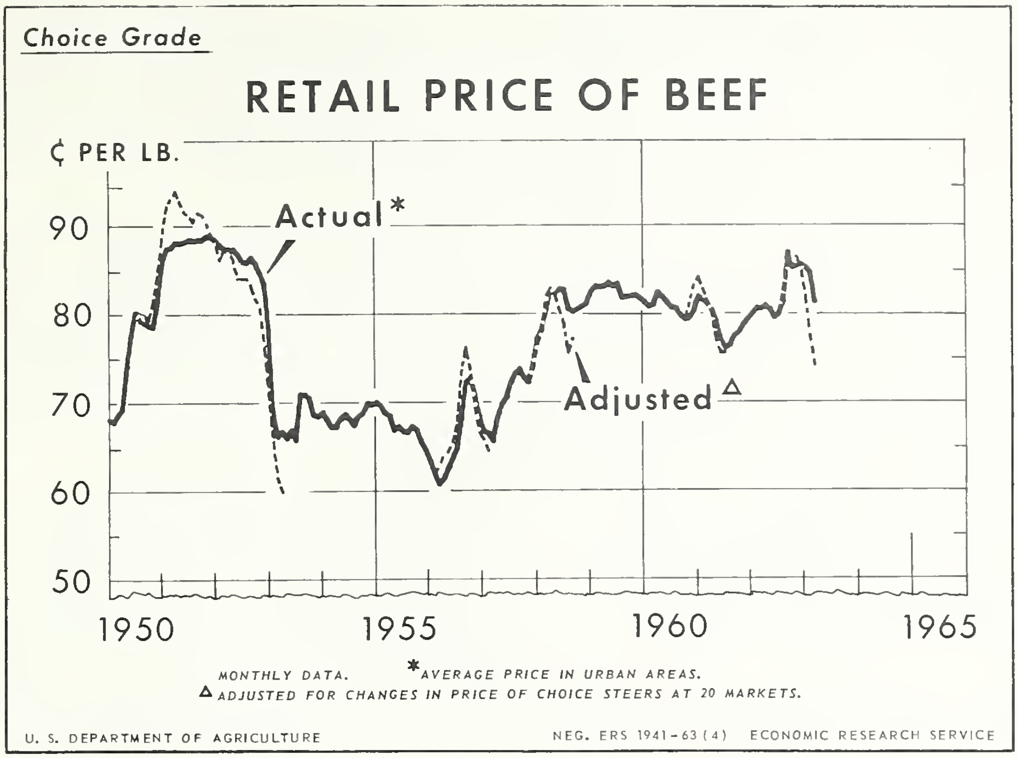

Figure 2

Table 6.--Change in retail price of Choice-grade beef per pound and in value of equivalent live product, selected periods, 1950-63

Period	Increase		Decrease	
	Beef 1/	Live product equivalent 2/	Beef 1/	Live product equivalent 2/
	Cents	Cents	Cents	Cents
1950-53	8.7	13.9	-22.8	-32.6
1956-57	10.9	14.3	-6.3	-11.7
1957-58	10.6	10.7	-2.6	-7.2
1960-61	2.5	4.8	-5.8	-8.6
1962-63	3/5.9	4/11.0	3/-6.9	4/-15.0
Average	7.7	10.9	-8.9	-15.0
Standard deviation	3.5	3.8	7.9	6.5

1/ Changes in weighted average retail price calculated from monthly prices of individual cuts published by the Bureau of Labor Statistics.

2/ Change in value of $2\frac{1}{4}$ lb. of Choice steer, calculated from average prices of steers (900-1,100 lb.) at 20 leading public stockyards.

3/ Changes in weighted average retail price calculated from prices of individual cuts reported by 26 retail food chains.

4/ Change in value of $2\frac{1}{4}$ lb. of Choice steer, calculated from prices of Choice steers (900-1,100 lb.) at Chicago.

Live purchases appear to the retailer (via the packer) as costs. While the costs of live animals account for a major part of the retail price of beef, competition (or the lack of it) among packers, retailers, and farmers (and between these market levels) is the ultimate force determining how prices react to changes in supply and demand. Although wholesale prices can be lowered when packers can purchase live steers more cheaply, this reaction can be expected only if competitors insist. If purchasing costs of retailers are reduced, retail prices can be lowered if competition makes this necessary. Competition is the force expected to maintain efficiency. The real possibility of a competitor selling at a lower price is expected to lead to the smallest margins consistent with the continued operation of efficient firms.

The fact that the pattern followed in this year's price responses is not demonstrably different from the patterns of the last 5 severe adjustments is a strong argument that competition today is no less (or no more) effective than in previous periods.

Still, why does it take a month or 2 for retail prices to begin to adjust to declines in livestock prices? The time it takes to move supplies and supply increases from level to level is part of the answer. Still another factor may be retailers' preference for stable "regular" prices. Another part arises from uncertainty. No one can be sure that any given change in costs will persist for a significant period.

Pricing Meats at Retail

Each retailer faces the problem of finding the "right" price for each cut of meat. To do this, he must anticipate his market, for he does not negotiate with his customers. If his price is too high, the cut will not sell well and he may lose customers; too low, and his profits decrease. Each retailer must solve this problem for 30 or more cuts of beef and many other cuts of other meats. His costs (such as labor and rent) are only a rough guide to pricing for profit, and in most cases, he bought a carcass and has only an average cost of all cuts to go by.

Research has shown that retailers use a complicated set of reasons is estimating their consumers' reactions to prices and price changes. Many of them apparently conclude that they are in the best position to merchandise their products if prices are stable, except for "specials."

"Regular" and "Special" Prices

The tendency to hold "regular" retail beef and pork prices steady and adjust to changes in supply by changing the intensity of merchandising is clear from fig. 3 even though the period for which these data are available is fairly short. Regular prices are much less variable than prices which include "specials." Since most meat moves at the "special" price during the days when a special is offered, the series including specials is the more appropriate estimator of the average price of retail cuts.

These data also imply that when retail prices are rising, the spread between regular and special prices declines. When prices are falling, this spread increases as retailers move more of the supply by specials. Regular prices are reduced only when it becomes clear that the supply change is too great to be handled in this way and that competitors are likely to lower their regular prices.

The volume of beef sold at reduced prices must be considered when calculating the average retail price at which beef is sold. But the fact that retailers tend to hold regular prices as stable as possible may place some pressure on live prices during periods of supply changes when adjustments are needed at all levels.

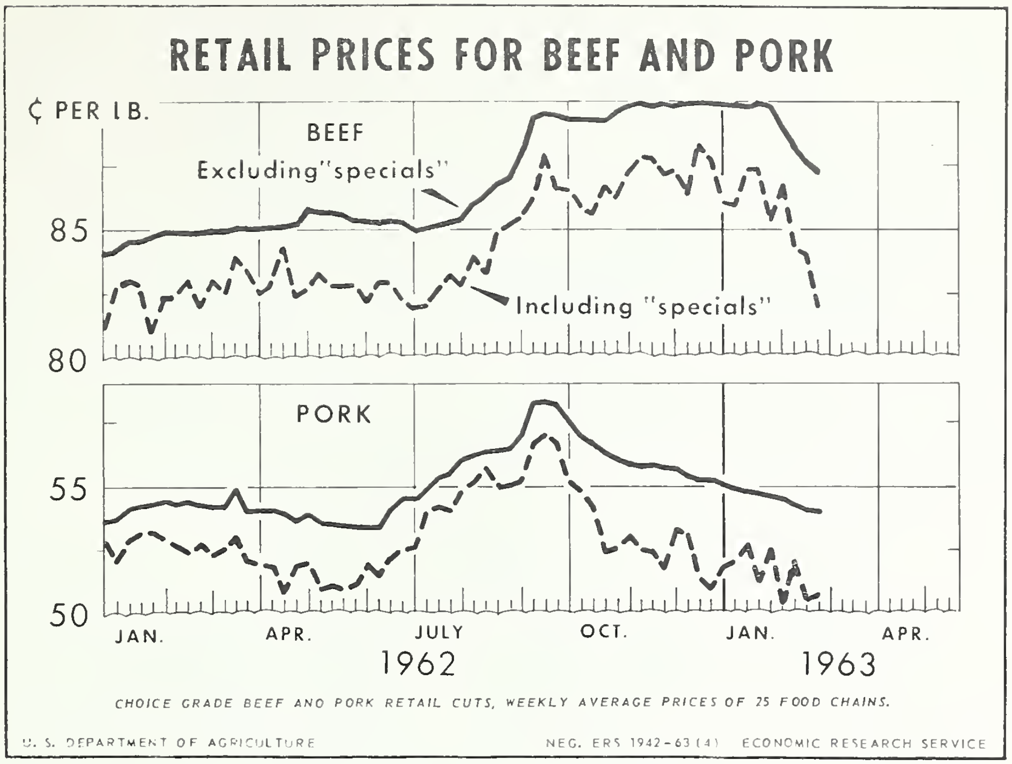

Figure 3

Possible Impacts on Other Market Levels

In practice, retailers "special" only a limited number of items each week. When supplies are heavy, this number increases. In any given week, however, many cuts are offered only at regular prices -- even when supplies are particularly heavy. Generally, beef cuts are not specialed heavily when pork or poultry specials are offered. Yet at times, such as last winter, supplies of beef, pork, and poultry increase together. In such a period, retailers apparently try to hold regular prices steady and offer more specials at lower prices. Finally, regular prices are reduced.

When increased supplies of several meats are moving into wholesale markets at lower prices, special sales at retail may not easily move these quantities. In such cases, unchanged regular prices may put additional downward pressure on wholesale and live prices. The same rigidity, however, very likely puts similar upward pressures on rising prices during opposite supply circumstances. These pressures would depend on a combination of changes in supply of 2 or more meats or poultry -- rather unusual circumstances that probably would neither happen often nor persist for a very long period. The rigidity leading to such pressures would appear to grow out of the rules retailers use to price their products and the uncertainty they feel about the full extent of supply changes.

The pressures resulting from this rigidity and simultaneous changes in the supplies of several commodities, each competing for the retailers special merchandising efforts, may appear at the farm level as a temporary decrease or increase in demand. Under such circumstances the forces which cause retail prices to tend to "underadjust" to certain

supply changes may, in turn, be responsible for part of the "overadjustment" in live prices.

Although there is no significant evidence that retailers are able to ignore competition in planning their reaction to changes in supplies, it is very likely that the tendency of live prices to overadjust would be lessened if retail meat prices were more sensitive to wholesale and live prices. To the extent that increases in retail price sensitivity would reduce this tendency, producers would be benefited. When live prices overadjust, production and feeding are overstimulated on rising markets and too sharply cut back on falling markets. The more accurate the economic indicators available to producers, the better they are able to adjust to changing economic situations.